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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,610	09/15/2003	Marvin E. Haddock	RECC:002USC2	2341

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EXAMINER

MENON, KRISHNAN S

ART UNIT PAPER NUMBER

1723

DATE MAILED: 02/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,610

Applicant(s)

HADDOCK, MARVIN E.

Examiner

Krishnan S Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-15, 17 and 18 are pending after the preliminary amendment.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "semi-permeable nano filtration" in last line. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6, 13, 17 and 18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hark (US 4,808,287).

Hark (287) discloses purification system as in claim 17 and 18 (see fig); and a water (an engine coolant) purification process (see fig) comprising reverse osmosis at 300 psi (col 3 lines 20-23) and electrolytic deionization as in instant claims 1 and 13,

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and multi-stage pre-filtering the coolant prior to reverse osmosis as in instant claims 3-6 (1,4 of fig, col 2 lines 33-56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederick Jr et al (US 5,139,678) in view of Hark (287).

Frederick (678) discloses a process for purifying engine coolant (instant claim 1) using reverse osmosis with multi-stage pre-filters of decreasing pore-size (instant claim 3-6), including micro and ultra filters (instant claim 10-14) (see fig 1,2; col 2 lines 16-60). Pressures are from 50 to 600 psi as in instant claim 12-14 and 26-28. As to the nano filtration of instant claim 11, 12 and 14, the applicant interchangeably uses ultra and nano filtration (page 11, lines 22-24 of instant specification) and ultrafiltration is provided by Frederick (678). Even though Frederick (678) does not quote the ASTM specifications as in instant claim 2, the tables I-III indicate that those specifications are met.

Frederick (678) does not teach electrolytic deionization as in instant claim 1. Hark (287) teaches electrolytic deionization (9-Fig). It would be obvious to one of

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ordinary skill in the art at the time of invention to incorporate the electrolytic deionization as taught by Hark (287) in the process of Frederick (678) for improved deionization in Frederick's (678) process as taught by Hark.

2. Claims 7- 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederick Jr et al (US 5,139,678) in view of Hark (287) as applied to claims 1 above, and further in view of Otani et al (US 4,443,337).

Frederick (678) in view of Hark (287) does not disclose centrifugal separation or dissolved air floatation as in instant claims. Centrifugal and air floatation techniques are well known in the art for water treatment. Otani (337) teaches floatation (16-fig 3) and centrifugal separation (28-fig 6) for wastewater. It would be obvious to one of ordinary skill in the art at the time of invention to use the teachings of Otani (337) in the process of Frederick (678) in view of Hark (287) in addition to the filters to more effectively remove solids/suspended matter/sludge/oil from the used engine coolant.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon
Patent Examiner
February 2, 2004

Walker
W. L. WALKER
SUPERVISOR EXAMINER
TECHNOLOGY CENTER